

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of grinding an outer circumferential surface of a workpiece formed of a hard and brittle material into a predetermined shape using a grinding wheel while rotating the workpiece, the method comprising:

plunge grinding the workpiece in dry air at an arbitrary portion in a longitudinal direction of the workpiece by causing the grinding wheel to come in contact with the workpiece in a direction which intersects a rotational axis of the workpiece; and

traverse grinding the workpiece in dry air toward the plunge ground portion by moving the grinding wheel relative to the workpiece in a direction parallel to the rotational axis of the ~~workpiece.~~ workpiece.

wherein in the traverse grinding step, the grinding wheel moves only in a direction toward the plunge ground portion while traverse-grinding the workpiece to a final shape.

2. (Original) The method according to claim 1, wherein the plunge grinding is performed for at least one end of the workpiece in the longitudinal direction.

3. (Original) The method according to claim 1, wherein the plunge grinding is performed for a middle portion of the workpiece in the longitudinal direction.

4. (Currently Amended) A method of grinding an outer circumferential surface of a workpiece formed of a hard and brittle material into a predetermined shape using a grinding wheel while rotating the workpiece, the method comprising:

traverse grinding the workpiece from one end to a middle portion in a longitudinal direction of the workpiece by moving the grinding wheel relative to the workpiece in a direction parallel to a rotational axis of the workpiece; and

traverse grinding the workpiece from the other end to the middle portion of the workpiece in the longitudinal ~~direction~~, direction,

wherein in the traverse grinding steps, the grinding wheel only moves toward the middle portion while traverse-grinding the workpiece to a final shape.

5. (Previously Presented) The method according to claim 1, wherein the workpiece is a honeycomb structure used for a diesel particulate filter.

6. (Previously Presented) The method according to claim 1, wherein the plunge grinding and the traverse grinding are performed in dry air while setting a rotational speed of the grinding wheel to 100 m/sec or more.

7. (Previously Presented) The method according to claim 4, wherein the workpiece is a honeycomb structure used for a diesel particulate filter.

8. (Previously Presented) The method according to claim 4, wherein the plunge grinding and the traverse grinding are performed in dry air while setting a rotational speed of the grinding wheel to 100 m/sec or more.

9. (New) The method according to claim 1, wherein the traverse grinding step is started only after the plunge grinding step is completed, and the plunge ground portion is not processed again after the traverse grinding step has started.

10. (New) The method according to claim 4, wherein the second traverse grinding step starts only after the first traverse grinding step is completed and the portion processed by the first traverse grinding step is not reprocessed after the second traverse grinding step has started.

11. (New) The method according to claim 4, wherein, in the traverse grinding steps, the grinding wheel comes in contact with one end of the workpiece and grinds the one end to a predetermined depth.